

AMENDMENT TO THE DRAWINGS

The attached Replacement Sheet of drawings includes changes to Fig. 9 wherein: (1) old number 146 has been changed to 143; (2) new number 146 has been added to designate the medial legs of the flow-channels, (3) old number 152 that designated the exit legs has been changed to 150, and (4) flow-restrictors 156 are relocated from flow-channels 146a to flow-channels 146b. An annotated copy of the drawing, showing the changes in red, is also attached.

U.S. Appln. No. <10/664,294>

14

REMARKS/ARGUMENTS

This application contains claims 1-8 amended, as set forth above, to more particularly point out and distinctly claim Applicant's invention. Reconsideration and allowance of the claims, as amended, is respectfully requested.

The Examiner requires that the current status of the parent application referenced in the first paragraph should be updated. No amendment is needed since the present status of the parent application is already stated (i.e. "now abandoned").

The Examiner requires that the current status of all non-provisional applications be updated. To this end, Applicant has amended paragraph [0024] has been amended.

The Examiner has objected to claim 4 be amended to provide adequate antecedent basis for "a said flow channel", and "a said port". Applicant has so amended claim 4.

Per the Examiner's request, claim 6 has been amended to delete the typographical error "ed".

Other amendments have been made to the specification for clarification thereof only, and do not introduce any new matter into the application.

THE INVENTION

Applicant's invention strategically locates a plurality of flow-restrictors in the flow-channels of a PEM fuel cell's reactant flow-field. The flow-channels are separated, one from the next, by lands that engage a gas permeable current collector that, in turn, engages the membrane-electrolyte. The flow-restrictors are located so as to induce and maintain pressure differences between next-adjacent flow-channels sufficient to drive

U.S. Appln. No. <10/664,294>

15

reactant gas from the flow-channel on the high pressure side of the land into the flow-channel on the low pressure side of the land through such of the permeable current collector as is engaged by the land.

THE REJECTIONS

The Examiner has rejected claims 1-8 under 35 USC 112 because he considers the term(s) "sufficiently above" and "sufficient to" to render the claims indefinite because the extent or degree thereof is unknown/uncertain. The Examiner errs. The indefiniteness requirement of 35USC112 is a requirement for precision and definiteness of claim language so that the claims make clear just what subject matter they encompass, and thus what the patent precludes others from doing. In this context, the courts have consistently held the term "sufficient to" to be definite when it is defined/delimited by functional criteria [In re Spiller, 500 F2d 1170, 182 USPQ 614 (C.C.P.A. 1974)]. Applicant's claim 1 functionally defines the pressure as being sufficient to "... drive said gas from said second gas flow-channel into said first flow-channel through such of said gas-permeable current collector as engages the land separating said first gas flow-channel from said second flow-channel". Similar functional language appears in independent claims 5 and 8. With such, the claim interpreter is fully apprised of just what is, and what is not covered by the claims, and 35USC112 is satisfied. Withdrawal of the rejection is respectfully requested.

Applicant's claims stand rejected under 35 USC 102e as being fully anticipated by Fujii et al. 6,528,196 based on the Examiner's contention that Fujii's several "communication passages" are "flow-restrictors". The Examiner's contention is simply untenable. He points to nothing in Fujii et al. to support his contention, and nothing can be found. Neither does he offer an engineering explanation for his contention, and none is seen. Fujii seeks to reduce pressure drop differences between flow-channels to promote more uniform gas flow through, and water removal from, a PEM fuel cell flow-field. To this end, Fujii connects next-adjacent flow-channels by "communication passages" to reduce any pressure differences therebetween – the exact opposite of Applicant's objective. Hence, Fujii's passages are not seen to be flow-restrictors that induce/maintain pressure

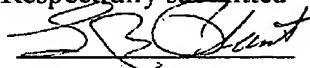
U.S. Appln. No. <10/664,294>

16

differences between next-adjacent flow-channels sufficient to cause trans-land reactant flow between such channels. Accordingly since Fujii et al. does not teach or suggest Applicant's claimed invention, a 35USC102 rejection is improper, and withdrawal thereof is respectfully requested.

In view of the foregoing, the Examiner is respectfully requested to withdraw his several objections/rejections, allow the claims as amended, and pass this case to issue at his earliest convenience.

Respectfully submitted



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Atths. Replacement Sheet of dwgs
annotated sheet of drawings

GP-301479
 Legal Serv. GM Corp., Detroit, MI
REPLACEMENT SHEET ANNOTATED
7/8

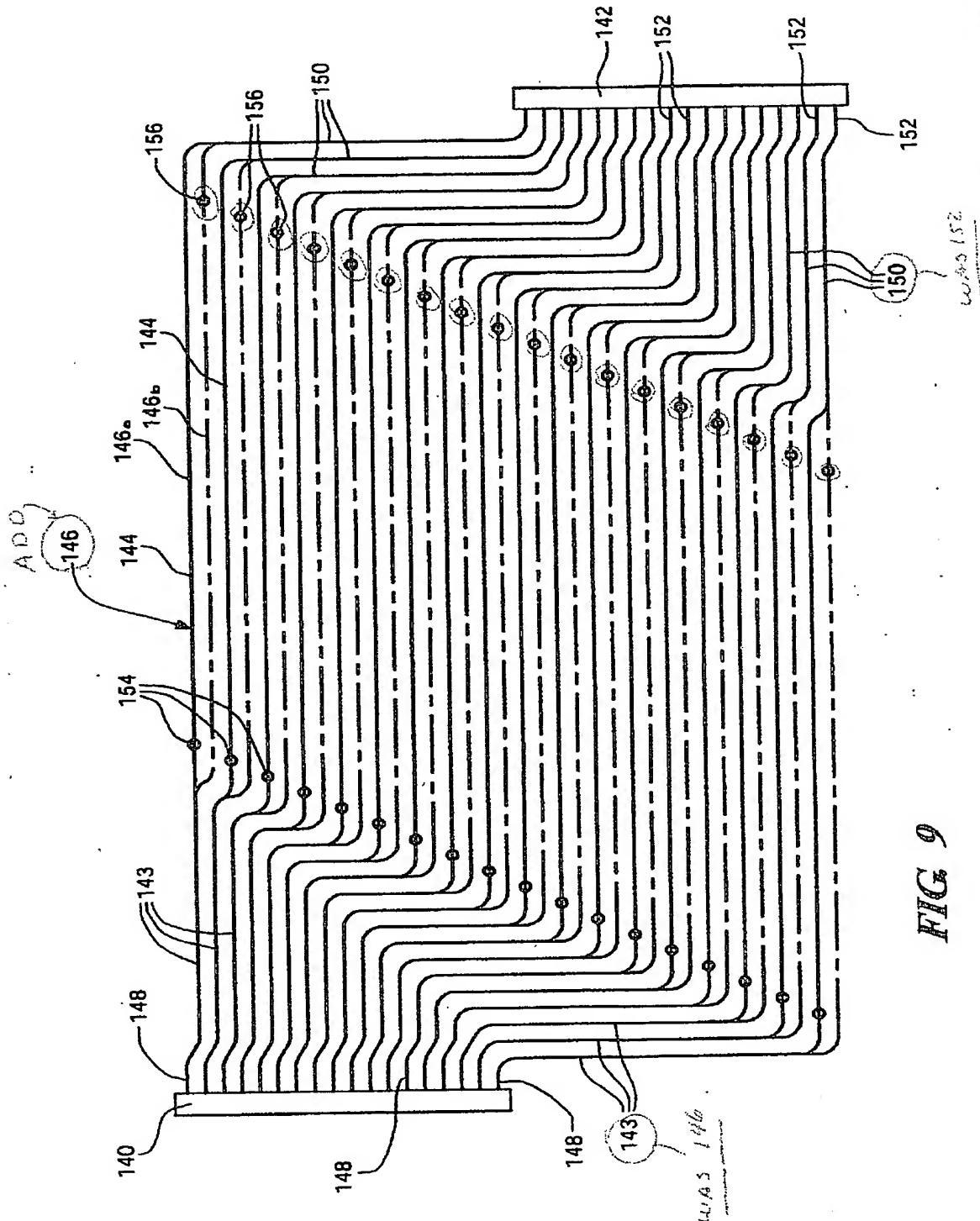


FIG 9

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